ARTISANAL AND INSHORE FISHERIES DEVELOPMENT IN NIGERIA: STATUS PAPER ON THE FAO/UNDP PROJECT NIR/77/001

by

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ABSTRACT

The UNDP/FAO supported Federal Fisheries Project for the Development of Artisanal and Inshore Fisheries in Nigeria has the specific objective of increasing fish production through an integrated approach aimed at upgrading the rural coastal fishermen and improving their living conditions. The significance of this sector is evident in that it contributes at present to over 50% of the fish catches in the community. The role of FAO as the executing agency is to provide the necessary technical expertise for the project - which covers all the six Maritime States of Nigeria.

The Project has an operating life-span of three years and envisages a total outlay of nearly ₦3 million in terms of personnel and services, apart from the equipment being provided by the Federal Department of Fisheries.

This paper attempts to review the activities of the project during the first two years of the operational phase and highlight some of its specific achievements.

INTRODUCTION

The Coastal artisanal fishery sector of Nigeria is scattered among numerous large and small fishing settlements along the 960 Km. coastline of Nigeria with its extensive coastal lagoons. Majority of these settlements are characterised by their remoteness and are cut off from the main national roadway system and have to be approached by boats and by trekking several kilometers from the nearest road-head. The coastal artisanal fishermen number approximately 250,000 and operate about 50,000 traditional wooden canoes of various sizes - a small percentage of which approximately 4,000 are fitted with out-board motors of different H.P. Fishing gear used from these canoes comprise mainly of set-gill nets, beach seines, long line, basket traps, cast nets etc. This fishery as being practised now is labour intensive and because of the limited capabilities of the craft and gear, results in low productivity. Their operating range is generally around the 20M. depth contour, with operations sometimes extending up to a maximum depth of 40 metres. Yet in view of the large number of craft and gear involved, this sector has recorded a production of nearly 270,000 tons of fish in 1979 which is nearly 50% of the total fish catch of Nigeria and which shows a probable 35% increase in the catch during the decade.

About 95% of the catches of the coastal fishermen are normally smoked and the limited quantities which are sold fresh are mostly consumed within a range of 25 Kms. from the coast. These fishes are handled by traditional marketting channels that are dominated by fish mammies who are most often wives or mothers of fishermen.

A recent desk study of the Fishery Sector in Nigeria prepared by the Investment Centre of the FAO/World Bank Cooperative programme at the request of the World Bank has concluded that "the principal developments which would lead to an expansion of landings would probably be restricted to providing more effective means of fishing, handling, processing and distribution of catches and the provision of adequate services in the small scale fishery sector. An improvement in this sector would provide the most immediate and productive returns as compared with the other sectors".

The constraints to the development of the coastal artisanal fishery sector were well identified when the country's Third National Development Plan was drawn up and are summarised as,

(1) Lack of modern fishing inputs by way of improved fishing craft, gear and methods,

(2) Lack of access feeder roads or canals from the nearest road-head,

(3) Lack of proper service facilities at the village sites,

(4) Loss of product due to lack of facilities for proper handling, processing, transport and marketting,

(5) Shortage of trained man-power, and

(6) Lack of effective fishermen organisations.

The Third National Development Plan saw firm foundations being laid for development of fisheries in Nigeria. The Forth National Development Plan (1981-86) currently under execution, while laying emphasis on increased fish production with a view to attaining the goal of self-sufficiency in fish production by the end of the Plan period, also aims at encouraging local manufacture of fish products, which are being imported now, providing employment to young school leavers and increasing the per capita income of the fisherman to enable him improve his life style. Of the total expenditure of about ₦87.00 million envisaged under the Federal Programme, a substantial portion has been earmarked for programmes which are meant to help the artisanal fishery sector through Projects like the National Accelerated Fish Production Project, the Inshore Fishing Project, establishment of ice and fish cold storage plants, fishing terminal facilities and the FAO/UNDP Artisanal and Inshore Fisheries Development Project.

The Artisanal and Inshore Fisheries Development Project

This UNDP/FAO assisted Project for the development of the coastal artisanal and Inshore fisheries of Nigeria covers all the six maritime States of Nigeria and provides the much needed technical expertise for implementing the several development programmes in this sector and has the multiple objectives of not only helping to provide more effective means of fishing to increase fish production but also to help introduce better methods of handling, processing, distribution and marketting of catches and provide adequate workshop and servicing facilities.

This project extending over a period of 36 months, became operational in January, 1980 and is now entering the final year of its implementation. The Food and Agriculture Organisation (FAO) of the UN, as the executing agency has provided the following expatriate specialists, and some essential equipment.

Post Description	Name	Nationality	Location	Period
Project Manager	D.A.S. Gnanadoss	Indian	Lagos	from June '79
Master-fisherman/ Fishing Technologist	A.D. Hansen	U.S.A.	Ikot-Abasi	August '80
Marine Engineering Technician	Bo Soo Jo	Korean	Port	October '80
Fish Processesing Technologist	T.P. Jones	British	Benin	December '80
Boat Building Expert	T.S. Langford	British	Epe	August '81
Fish Marketting & Cooperation Expert	J. Toh	Korean	Akure	September '81

Of the above experts, the Master-fisherman, Mr. Hansen and Marine Engineering Technician, Mr. Bo Soo Jo have separated respectively for health and personal reasons and steps are on the way to replace them. Proposals for augmenting the expertise with two more master-fishermen experts are under active consideration. When these experts are also fielded, each extension unit will have its own team of fishing experts assisted by other expert technologist to ensure better project delivery.

The Federal Department of Fisheries as the implementing agency of the project has provided the necessary counterpart staff of professionals, headed by Mr. A.A. Aderounmu, Chief Fisheries Officer (Artisanal) - as the Co- manager of the Project and Mr. J.A. Gaffar - Asst. Chief Fisheries Officer (Technical) as the Technical counterpart of the Project Manager, and assisted by fourteen (14) technical counterparts from the Federal Department of Fisheries and from the States who are working with the field experts.

The Federal Department of Fisheries has provided all the equipment and services for the implementation of the Project.

ACTIVITIES OF THE PROJECT

The Project being of a multi-disciplinary nature, the activities cover,

(1) Developing and stengthening three units of the Federal Fisheries Extension Service at Lagos, Benin and Ikot Abasi,

(2) Establishing and developing one pilot integrated Rural Fisheries Development Cente in each marine State,

(3) Providing the necessary technical support and extending modern technology as appropriate to accelerate the development of Artisanal and Inshore Fisheries,

(4) Assisting with the development of cooperative movement among rural fishermen, and

(5) Training of national counterpart technologists both on the job and through award of training fellowships.

The activities of the Project also cover providing technical assistance to the several inter-related development programmes covering motorisation of fishing canoes, development of motorised fibreglass canoes, introduction of small inboard motor fishing gear and methods, introduction of modern and innovative fishing gear, establishment of infrastructural facilities like workshops and field service stations, fish landing jetties, ice and cold storage facilities, development of techniques for better storage of fish in fishing canoes and boats and fish preservation programmes for collective marketting and distribution of fish, organisation of fishermen cooperative societies and community centres, improvement of communication and transport facilities and other amenities.

Project experts in the various disciplines have been made responsible for developments in their respective fields and wherever short term field studies were required. Consultants have been hired to examine specific issues and advice the Project.

PROJECT ACHIEVEMENTS

For a project of this nature which attempts to bring about changes in the life style of rural coastal fishermen living in remote locations, it is probably too optimistic to expect spectacular results within a period of two years. Furthermore, being a multi-faceted project, with different experts assigned to different areas, the impact the Project has made with the artisanal fishermen is bound to vary. However, the Project has been able to make an appreciable impact and record overall progress in the several activities assigned to it, as briefly described hereunder.

Development and Strengthening of Three Units of the Integrated Federal Fisheries Extension Service

The units at Lagos, Benin and Ikot-Abasi are well established and with Project experts actively assisting and servicing them. These units have been able to play a significant role in bringing to the artisanal fishermen the benefits of modern developments in fisheries Technology and also helping them to organise into fishermen cooperatives and take advantage of the several assistance programmes of the Government.

Establishment of Integrated Rural Fisheries Development Centres

The following centres have been identified for development in each state and the various infrastructural facilities have either been provided or in vrious stages of completion. Centres like Uta Ewa are already well established with most of the activities already in full swing.

Lagos State - Yovoyan

Ogun State - Igbekki

Ondo State - Orieke Iwamimo

Bendel State - Ogeye

Rivers State - Oyorokoto

Cross River State - Uta Ewa

IMPROVEMENT OF FISHING CRAFTS

Out-board Motorisation

The Project assisted in optimising the HP requirement of out-board motors for fishing canoes and assisted in procuring two hundred (200) Out-board motors with spares through the FAO. These were in addition to the one hundred and fifty (150) outboard motors purchased locally. The Project experts assisted the national agencies in identifying the beneficiaries and ensuring that the motors are put to proper use.

In-board Mechanisation

Proposals for introduction of small mechanised fishing boats with in-board diesel engines were examined and suitable boat types and engines have been selected. Simultaneously proposals for installing small inboard engines in indigenous fishing canoes were also examined.

The features of the Yamaha in-board motor fishing boat SPD 27 (decked as well as open version) being introduced by M/S Almarines were carefully studied and the Project will be associated with the field trials of these boats.

Development of Fibre-glass Beach Landing fishing Canoes

The Project Boat Building Expert based at Epe and attached to the Epe Boat Yard has prepared plans for resucitating the Boat Yard and converting one of the sheds for construction of fibre-glass fishing canoes. As soon as the Epe Boat Yard management makes available the necessary facilities, work on the construction of the fibre-glass canoes will start.

Development of Beach-landing Crafts

In addition to fibre-glass canoes, proposals are under consideration for developing simple wooden beach boats. Advantage is being taken of experiment being carried out under the Bay of Bengal Programme for developing suitable

beach boats. The Project Manager and the Co - manager had occasion to see this activity and take part in demonstration of these crafts being developed in Madras - India. As soon as these experiments are completed, the project will arrange to introduce the successful versions in Nigeria.

In addition the project is also closely involved with the trials of the Yamaha beach landing canoes installed with out-board motor, as well as the one with in-board engines. The fishing demonstrations of these canoes will be carried out shortly in collaboration with the Project experts.

Introduction of Modern GRP Utility Fishing Boats

The project spearheaded the programme of introduction of Yamaha type GRP Utility fishing boats of 19ft. and 25ft. lengths (W19 and W25) with suitable modifications. The Project Master-Fisherman demonstrated and proved the superiority and suitability of these boats, working with the fishermen at several centres in Cross River State and these boats have become extremely popular with the fishermen. While ten (10) of these boats were supplied to fishermen during 1980-81, orders have been placed for supply of eighty of these boats during 1981-82. While the demand for these boats is heavy, the only limiting factor is the local manufacturing capacity.

Introduction of Extreme Shallow-draft Fishing Crafts

The project is closely associated with and provides technical and administrative support on the FAO side to the inter-regional programme for development of shallow draft fishing vessels - being operated from Uta Ewa. If the results are positive, they will be utilised with advantage in this project.

FISHING GEAR TECHNOLOGY

Improvement of Traditional Fishing Gear and Methods

The project successfully demonstrated the use of monofilament gill netting for bottom set nets - which were found to be not only more efficient but also suffered less damage by crabs.

The twine and net sizes were standardised and arrangement made for bulk supply of both monofilament and multifilament fish netting through FAO.

Introduction of New and Innovative Fishing Gear

Standard designs with specifications were prepared by the Project experts for fish and shrimp trawls and trawl doors to be operated from the 13.2M. Inshore Fishing Trawlers and these designs have been adopted for placing bulk orders for supply of the fishing gear. The proto-type nets were got made in Lagos with technical assistance from Project experts.

A beginning was made to introduce polyethylene twines for trawl nets and the nets are on order.

Pair-trawling with outboard motor boats was demonstrated at Uta Ewa and the experiments are to be continued.

Plans for introducing small purse-seines for capturing pelagic fishes are under examination.

ESTABLISHMENT OF WORKSHOPS AND SERVICE STATIONS

The Project Marine Engineer planned the Workshop at Uta Ewa which was set up and equipped. Although the workshop mainly catered for the needs of out-board motor operations, provision was made for its expansion to accommodate the requirements of in-board diesel engines and for trawler maintenance.

Plans were prepared by the project expert for the Workshop at Oyorokoto and the work is under way.

Standard plans were also prepared by the project for the workshop to be set up at selected bases for servicing the Inshore Fishing Trawlers.

The project also provided extension services for the vessels of the Inshore Fishing Project and the Marine Engineer assisted with the maintenance and repairs of the vessels.

FISH HANDLING AND PROCESSING

Fish Smoking

The Fish Processing Expert of the Project designed model smoking kilns two of which have been set up at Ogeye area of Bendel State and are functioning satisfactorily and have been accepted by the fishermen. Ten more of these kilns are ready for erection in Bendel and Ondo States. The expert is in the process of erecting a model kiln at Uta Ewa. The expert has also been training his counterparts in kiln construction and in the improved fish smoking technique.

Shrimp Drying

The Processing Expert has also designed a model hot air drier for shrimps - which have been proposed to be set up in Ogeye area.

Fabrication of Insulated Fish Boxes

The expert has designed and fabricated insulated fish boxes for transport of fish in ice, which have been demonstrated in Ondo State in conjuction with the Fish Marketting Expert of the Project. Work is on hand for fabricating smaller insulated boxes which could be fitted into fishing canoes.

Fish Storage

The Project has successfully assisted in the commissioning of the ice and cold storage plant at Uta Ewa and the experts have trained the operatives of the plant and also looked after its smooth running in the initial phase.

The project experts have also been extending technical advice and assistance for the ice plants being set up at other centres like Orioke Iwamimo, Warri and Yovoyan.

Fish Marketting

The Fish Marketting Expert of the Project has organised a programme of transport of fish stored in ice in insulated fish boxes and marketted fresh at Akure directly by the fishermen themselves. This has been received very well and the elimination of the middlemen in the trade is a welcome trend. The scope of this programme will be expanded gradually.

ORGANISATION OF FISHERMEN COOPERATIVE SOCIETIES AND COMMUNITY CENTRES

Fishermen Cooperative Societies have now been organised and registered in all Project centres and adjuncts - and the fishermen are benefitting from the subsidised inputs being provided by the Government.

The new fishermen colony at Uta Ewa is getting well established with a Cooperative Hall under construction in the campus. Provision is being made for similar facilities, also housing for Project experts are being planned in the new settlements.

TRAINING OF COUNTERPART TECHNOLOGISTS

Fourteen (14) national counterparts drawn from various levels ranging from senior professionals, extension workers and technical personnel of the Federal Fisheries Department and the Fisheries Divisions of the State Government are attached to the project. Of these, three officers work with the Project Manager at Headquarters and the rest who are attached to the experts in the field receive on the job training in the respective field of specialisation.

SEMINARS AND WORKSHOPS

A highly successful National Seminar on Development of Artisanal Fisheries in Nigeria was conducted under the auspices of the Project during 1980, which also attracted international participation.

The proposal to hold a second National Seminar on Fishermen Cooperative Organisation during 1981 had to be postponed to 1982 as the Federal Fisheries Department was over committed in 1981 for meetings and conferences. A village level training course was conducted at Uta Ewa under the Project on the operation care and maintenance of out-board motors.

A similar course for handling, storage and processing of fish is being organised and will be conducted by next month.

CONSULTANCIES

A consultancy was mounted during August - September, 1980 to make a preliminary appraisal of the fishery resources of the Coastal and brackish waters of Nigeria by Mr. G. Ssentogo, Fishery Resources Officer, FAO, Rome, in conjection with the Statistical Division of Federal Fisheries and the Marine Biology Division of NIOMR. Based on the recommendation of this mission necessary additional data was collected over a period of one year and the second leg of the Mission is in progress to analyse the data and make field studies. These studies are meant to give a true picture of the resource position of coastal artisanal fisheries of Nigeria.

A Civil Engineering Consultancy was mounted during August - September, 1981 with Mr. L. Kelly, a Harbour Engineer from Ireland as the consultant for preliminary study of the establishment of infrastructural facilities like canal-ways, feeder-roads, small fishing jetties and berthing facilities for inshore fishing vessels at important fishing centres.

The report is under study. A second mission will follow after the necessary surveys suggested have been undertaken and information made available.

STUDY AND TRAINING FELLOWSHIPS

A highly successful study tour was organised during October to December, 1981 for four senior fishery officers of Nigeria to visit India, Sri Lanka, Thailand, Philipines, and Korea and wrap up the visit with discussions at FAO Headquarters.

The team comprised of the following:-

Mr. A.A. Aderounmu	-	Chief Fisheries Officer (Artisanal) Federal Department of Fisheries.
Mr. E.O.E. Odiong	-	Chief Fisheries Officer, Cross Rivers State.
Mr. L.O. Abuah	-	Chief Fisheries Officer, Bendel State.
Mr. A. Akinde	-	Deputy Chief Fisheries Officer, Ogun State.

The study gave the necessary exposure to the officers to development in the developing countries, particularly in the fields of small scale fisheries and opportunities for exchange of views as well as an understanding of appropriate technologies which could be useful contacts with their counterparts in those countries.

As an important step to provide greater opportunities for young Nigerian fishery workers - particularly counterparts to Project experts who have already gained some experience working with the experts, to further develop their technical knowledge and experience, seven (7) training fellowships of six months duration each were awarded under the Project during 1981, for training in overseas institutions in the following disciplines:

Subject

1. Fishing Boat Mechanisation and Coastal Fishing

2. Inshore Fishing Gear and Methods

3. Marine and Mechanical Engineering for Small Fishing Boats

4. Fisheries Refrigeration Engineering

5. Fish Handling and Processing

6. Small Scale Fisheries - Planning and Development
   (2 fellowships)

A second batch of Fellowships has been proposed to be awarded during 1982.

CONCLUSION

The establishment of the extension units and pilot integrated Rural Fishery Demonstration Units and the resultant benefits accruing to the fishing community has already sparked off demands for similar facilities in other centres. The improved fishing craft and gear have been well accepted and are now being popularised in other marine states and plans are being implemented for large scale supply of these crafts and gear. Infrastructure facilities like service centres, improved smoking kilns, ice and cold storage facilities, cooperative marketting and allied programmes have been well accepted by the fishermen. Benefits of these programme are helping in a big way to change the lives of the rural coastal fishermen and integrate them with the development process in other spheres like aquaculture, industry, etc.

DISCUSSION

N.I. Azeza: What has the Government of Nigeria got to gain from the project? What is the Government's contribution to the project? What role is FISON playing in monitoring the project?

D.A.S. Gnanadoss: The fact that this status paper was presented to FISON indicates the importance that has been attached to the forum.

The achievement of the project can be seen when FISON participants pay a visit to Uta Ewa to see the project in action. There are the new types of boats, the gear introduced, new types of smoking kilns under erection, cold storage plants in operation etc.

R.E.K. Udolisa: What parameters were used in the selection of engines, boats and the innovating fishing gear trawl nets?

D.A.S. Gnanadoss: The cooperation and help of all agencies and institutions were only acknowledged at the conclusion of the presentation.

The selection of engines was based on well recognised principles - such as familiarity and availability of spares, suitability for installation in small boats among other considerations.

The fibre-glass canoe project is the FAO programme with the Federal Department of Fisheries.

The utility boats have been introduced for the first time in the Cross River State under the project and popularized.

The project does not claim originality for introducing polyethylene in fish trawls but has only tried to lure the fishermen away from the preference of nylon trawl nets.

The extreme shallow draught project is a collaborative effort and the results of the artisanal fisheries project is going to the end users of the project success.

Z.A. Adesanya: How many boats are being supplied by the project to improve artisanal fisheries? Why are some outboard motors imposed? Do you realize that some State Governments supply more to their artisanal fishermen.

D.A.S. Gnanadoss: This project is not meant to be an answer for all the problems of artisanal fishermen. However, the project is trying to do whatever it can within its budget. Although the importance of outboard motor under the project is not significant, the Green Revolution Programme is endeavouring to bridge the gap by supplying a very large number of outboard motors and outboard engines. This should help to accelerate the implementation of the programme.